

Level- and temperature sensor

Nivotemp NT 63

In hydraulics and lubrication technology the liquid level of oil tanks must be monitored continuously. Here, modern factory automation requires compatible signals. To minimise production costs and the space required on tanks, it makes sense to use one monitoring device for both the monitoring of the liquid level and oil temperature for example. The Nivotemp series meets virtually all requirements arising in this area of application.

The digital, bidirectional communication of these sensors meets the requirements of modern plant automation, reduces acquisition and installation costs, and improves system availability.

NT 63

Connecting flange as per DIN 24557 Part 2

Continuous liquid level measurement

Continuous liquid level and temperature measurement

IO-Link and 1 x programmable switching output

Analog output 4-20 mA (2-10 V DC upon request)

Resolution 5 mm (liquid level)

Various plug options

Proven and tested highly dynamic float system

Float and immersion tube optionally available in stainless steel

Immersion tube length up to 1420 mm (longer upon request)



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Technical Data NT 63

Basic unit

K = continuous liquid and temperature measurement
 KN = continuous level measurement
 LTD = level and temperature measurement (IO-Link)

Version	MS	VA
Operating pressure:	max. 1 bar	max. 1 bar
Medium temperature:	-20 °C to +80 °C	-20 °C to +80 °C
Float:	SK604	SK221
Min. fluid density:	0.80 kg/dm ³	0.85 kg/dm ³
Lengths (all versions):	280, 370, 500, 670, 820, 970, 1120, 1270 and 1420 mm (other lengths available upon request)	

Material/Version

Float:	PU	1.4571
Immersion tube:	Brass	1.4571
Flange DIN 24557 Part 2:	PA	PA
Weight at L=280 mm:	approx. 200 g	approx. 300 g
Each 100 mm add:	approx. 30 g	approx. 50 g

Includes:

Mounting screws (quantity 6) and rubberised cork seal.

Options

Stilling tube (SSR):	Brass	VA
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Input values

	Level	Temperature
Measuring principle:	Reed-contact	Pt100 Cl. B, DIN EN 60751
Resolution:	5 mm	
Tolerance:		± 0.8 °C

Analogue version

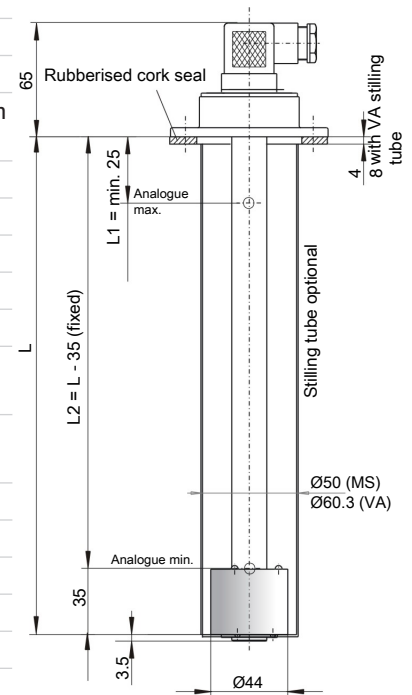
Ambient temperature:	-20 °C to 80 °C	
Operating voltage (U _B):	10 – 30 V DC	10 – 30 V DC
Analysis display electronics accuracy:	± 1 % from end value	± 1 % from end value
Output:	4-20 mA	4-20 mA (0-100 °C*) *Other ranges upon request
Max. burden Ω:	$= (U_B - 7.5 V) / 0.02 A$	$= (U_B - 7.5 V) / 0.02 A$

Digital version

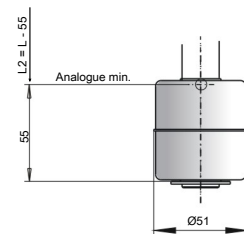
Ambient temperature:	-20 °C to 70 °C	
Operating voltage (U _B):	18 – 30 V DC	18 – 30 V DC
Analysis display electronics accuracy:	± 1 % from end value	± 1 % from end value
IO-Link version:	Revision 1.1	
Baudrate:	COM3 (230.4 k)	
SIO Mode:	Yes	
min. time period:	10 ms	

Dimensions

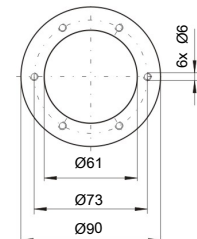
Basic model



SK 221 Float



Flange drawing



Ordering instructions NT 63

Model key

NT 63-□□-□□-□□-□□-□□		Optional SSR Stilling tube
Model designation		
Measuring mode		Length (max. 1420 mm)
K	Level and temperature measurement	280
KN	only level measurement	370
LTD	Level and temperature measurement (IO-Link)	500
Version		670
MS	Brass	820
VA	float and VA immersion tube	970
Plug connection		1120
M3	(only K/KN)	1270
M12		1420

Another accessory offered is a programmable display and control unit for displaying and monitoring measured variables, see data sheet no. 180201.

Accessories

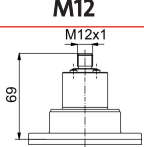
Item no.	Description
9144 05 0010	Connecting cable M12x1, 4-pin, 1.5 m, angular coupling and straight plug
9144 05 0046	Connecting cable M12x1, 4-pin, 3.0 m, angular coupling and straight plug
9144 05 0047	Connecting cable M12x1, 4-pin, 5.0 m, angular coupling and strands

Ordering example

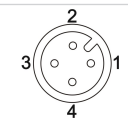
You require:	Level and temperature measurement with 5 mm resolution, brass version with M12 plug connector and length L = 670 mm
Order:	NT 63- K-MS-M12-670

Standard pin assignment NT 63-LTD

Connector

Dimensions	
Number of pins	4-pin
DIN EN	61076-2-101
IP rating	IP67*

*with IP67 cable box attached

Version	LTD-ID1S
Plug	M12 4-pin
Connection schematic	
Pin	
1	+24VDC
2	S2 (PNP max. 200 mA)
3	GND
4	C/Q (IO-Link)



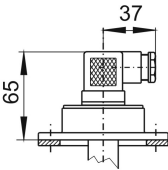
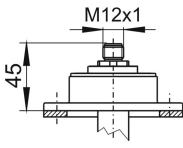
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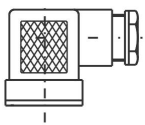
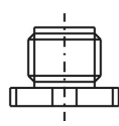
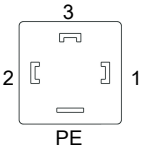
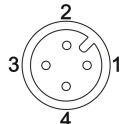
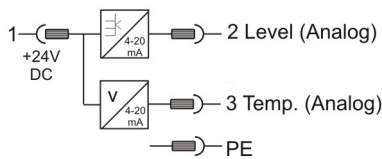
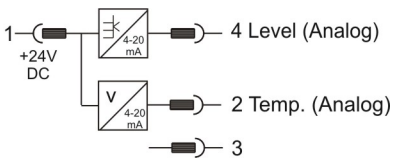
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Standard pin assignment NT 63-K, NT 63-KN

Plug connection

	M3	M12 (base)
Dimensions		
Number of pins	3-pin + PE	4-pin
DIN EN	175301-803	61076-2-101
IP rating	IP65	IP67*
Cable fitting	PG11	

*with IP67 cable box attached

	M3	M12 (base)
		
Connection schematic		
K continuous level and temperature measurement		
KN continuous level measurement	